

Does cognateness impact bilingual lexical acquisition?

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Background

Similarity between bilinguals' two languages impacts their vocabulary size at **24 months olds**¹

↑ Cognates ↑ Vocabulary size

How the number of **cognates** affects lexical acquisition remains unknown.

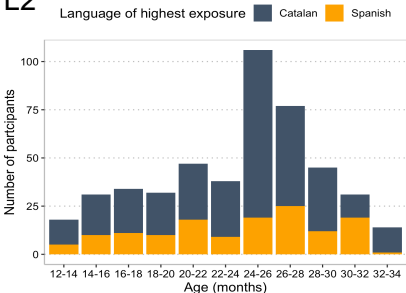
Hypothesis 1: Age of Acquisition (AoA) is earlier for cognates vs. non-cognate word-forms.

Hypothesis 2: Cognate Translation Equivalents (TEs) are acquired closer in time than non-cognate TEs.

AoA house	Earlier, closer	Later, more distant
Spanish	<i>casa</i> /'ka.zə/	<i>mesa</i> /'me.sa/
Catalan	<i>casa</i> /'ka.za/	<i>taula</i> /'taw.tə/

Methods

334 bilinguals from Catalonia aged 12 to 34 mo
219 Catalan-dominant, 115 Spanish-dominant
50-90% exposure to L2



Comprehensive vocabulary data in Spanish and Catalan collected online.

Hypothesis 1: Are cognates acquired earlier?

We used **logistic curves** to model the proportion of toddlers that were reported to understand/produce each of the Spanish and Catalan forms of 718 TEs.

We estimated the **mid-point** (age at which the proportion increased the fastest) using a **Bayesian** logistic model, generating priors from Wordbank.^{2, 3, 4}

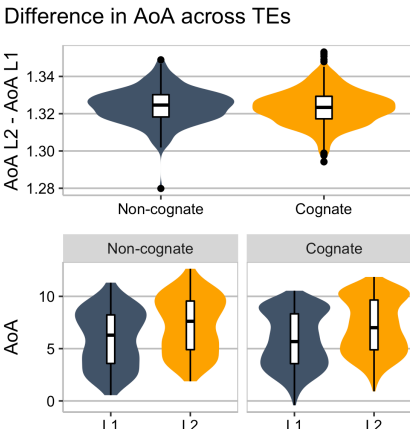
Model selection (LOO-PSIS cross-validation)⁷
Extended model (M1) vs. null model (M0) not including *Cognateness* as predictor
Moderate support for M1 (ELPD_{diff} = -14.4, SE_{diff} = 3.2)

Hypothesis 2: Are cognate TEs acquired closer in time?

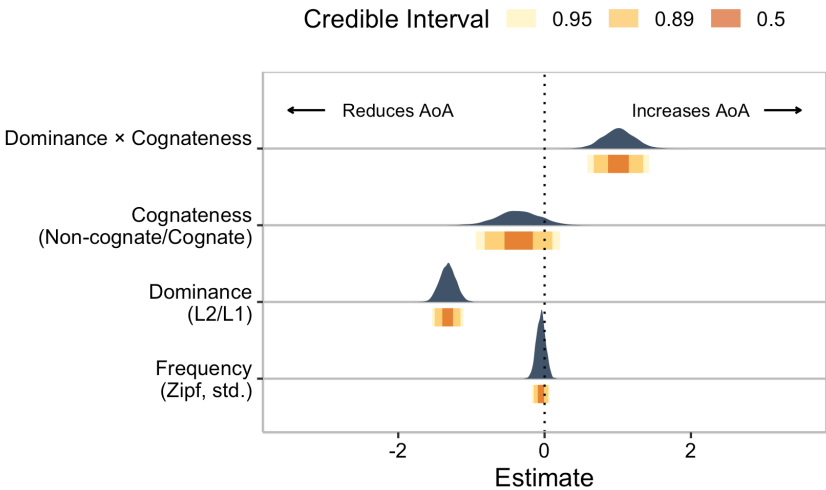
We calculated the difference in AoA for each TE

AoA = predicted *Mid-point*
AoA_{diff} = AoA_{L2} - AoA_{L1}

Bayesian ANOVA⁸
Strong support for H0
absence of cognateness effect (BF: 0.13)

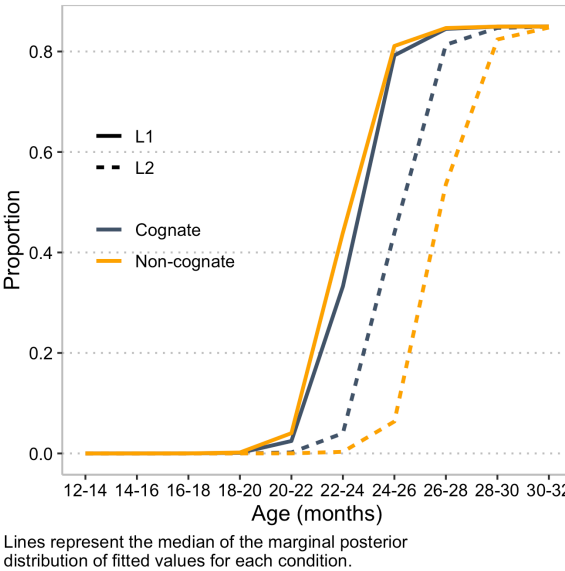


Model coefficients: What is the contribution of each predictor?



Fixed coefficients of the extended model (M1). Contrasts were sum-coded.
Frequency scores were extracted from SUBTLEX-ESP [5] and SUBTLEX-CAT [6]

Posterior predictive checks: What does our model predict?



Conclusions

Moderate but inconclusive evidence that cognates are acquired earlier than non-cognates.

Strong evidence against the hypothesis that cognate TEs are acquired closer in time.

Data collection is still **ongoing**.
Productive vocabulary data still to be analysed.